

REMARKS

This amendment is in response to the Office Action of August 23, 2004 in which claims 1-13 were rejected. It is noted that the Examiner has rejected claims 1-13 but has not said anything about claims 14 and 15 which are still believed to be pending. It should be noted that although applicant attempted to cancel these claims in an after final amendment, the Advisory Action mailed June 30, 2003 stated that for purposes of Appeal the proposed amendments would not be entered. In the Appellant's Brief filed September 15, 2003, on page two under Section four relating to the status of amendments, the amendment after final canceling claims 14 and 15 was withdrawn. Therefore it is believed that claims 14 and 15 are still pending. Claims 1, 14 and 15 have been amended and claims 16-19 added. Support for the amendment to claim 1 may be found for instance at page 8, line 29, at page 7, lines 9-20 and at page 11, line 6.

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Regarding the rejection of claims 1-2, 6 and 10 under 35. U.S.C. §103(a) as being unpatentably obvious over Watkins (U.S. 6,201,568) in view of Iwamoto (U.S. 5,751, 259), the art of imaging systems in which a changing direction-of-view of the images is coupled to a changing direction-of-view of the head of the viewer is not analogous to the art of mounting video cameras in motor vehicles. In any application of an obviousness rejection, several basic factual inquiries should be made: (I) the scope and content of the prior art, (II) differences between the prior art and the claims at issue and (III) the level of ordinary skill in the pertinent art.

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I. Regarding the scope and content of the prior art, the question of patentability turns on whether the subject matter as a whole sought to be patented was obvious to one with "ordinary" skill in the *art* to which the subject matter pertains in light of the "prior art." These are two distinct questions: (1) what is the "art" to which the subject

matter “pertains”? and (2) what is the “prior art”?

The subject matter of the present invention pertains to the “art” of imaging systems and, more particularly, to imaging systems in which a changing direction-of-view of the images is coupled to a changing direction-of-view of the head of the viewer. In known active and passive systems in this art the user is required to address the imaging system with an erect standing or seated posture that can be physically wearying over extended periods. Moreover, in the context of active applications, such as entertainment, such systems require the user to exert a degree of activism that can be overly demanding and even disconcerting. But these problems are overcome by the present invention by giving the user a relaxed entertainment experience preferred by most users. See page 2, lines 14-27.

Thus, the “prior art” encompasses at least the “art” of virtual reality and imaging systems in which a changing direction-of-view of the images is coupled to a changing direction-of-view of the head of the viewer.

The Examiner has applied as a primary reference the Watkins patent which describes apparatus for mounting video cameras in motor vehicles. In the reference, the Examiner points to Figure 5 items 92, 100 described at column 4, lines 35-41. There, an integral headrest is shown in a seat back 90. A cavity 94 receives a video camera 14 and is adjacent to a headrest 92 with a recess 100 that receives a head of a person occupying the seat. The projecting ridge 104 cooperates with an extending opposite side of a recess 100 to receive the head of a seat occupant while restricting the head from inadvertently blocking the view of the video camera 14.

References within the statutory terms of 35 U.S.C. §102 qualify as prior art for an obviousness determination only when analogous to the claimed invention. *In re*

Clay, 966 F.2d 656, 658 (Fed. Cir. 1992). Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference is still reasonably pertinent to the particular problem with which the inventor is involved. *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986); *See also In re Wood*, 599 F.2d 1032, 1036, (CCPA 1979). The "field of endeavor" test is made by reference to explanations of the invention's subject matter in the patent application, including the embodiments, function, and structure of the claimed invention. *See Wood*, 599 F.2d at 1036 (confining the field of endeavor to the scope explicitly specified in the background of the invention); *See also Deminski*, 796 F.2d at 442 (determining that the cited references were within the same field of endeavor where they "have essentially the same function and structure"). Obviously, the Watkins reference dealing with mounting video cameras in motor vehicles is not from the same field of endeavor as virtual reality or imaging systems in which a changing direction-of-view of the images is coupled to a changing direction-of-view of the head of the viewer. Since the reference is not within the field of the inventor's endeavor, the second test i.e. whether the reference is still reasonably pertinent to the particular problem with which the inventor was involved is next addressed. As mentioned above, the present invention is trying to solve the problems mentioned at page 2 of the present specification at lines 11-19 where the prior art requires the user to address the imaging system with an erect standing or seated posture that can be physically wearying over extended periods or, in the context of active applications, such as entertainment, they require the user to exert a degree of activism that can be overly demanding and even disconcerting. Such requirements are the antithesis of the relaxed entertainment experience preferred by most users. Thus, as mentioned at page 2, lines 21-27, the objects of the present invention are to provide an immersive imaging system that can be enjoyed passively or semi-actively, in a relaxed way, without requiring any overly demanding or disconcerting activism and to provide an

immersive imaging system without requiring a posture that wearies the user.

Clearly, using either the *Wood* or *Deminisky* tests, the field of mounting video cameras in motor vehicles is not within the same field of endeavor as virtual reality or imaging systems in which a changing direction-of-view of the images as coupled to a changing direction-of-view of the head of the viewer.

Moreover, the Watkins reference is not reasonably pertinent to the particular problem mentioned in the description of related art section of the present invention on pages 1 and 2 of the specification. The present inventor was not presented with a problem of providing an improved camera mount for motor vehicles with is unobtrusive and can at the same time show dashboard information and is adequately secured and not susceptible to vibration. This is not pertinent because it deals with a completely different problem and a completely different art.

An object of the present invention is to provide an immersive imaging system that can be enjoyed passively or semi-actively, in a relaxed way, without requiring any overly demanding or disconcerting activism and without requiring a posture that wearies the user. As stated by the Board of Appeals in the U.S. Patent and Trademark Office in *Ex parte Dussaud*, 7 USPQ 2d 1818 (Bd. Pat. App. & Interferences 1998), “precise definition of the problem is important in determining whether a reference is from a non-analogous art. Defining the problem too narrowly may result in excluding consideration of relevant prior art. By the same token, defining the problem to broadly...may result in considering prior art as ‘analogous’ which is inconsistent with real world considerations.” The precise nature of the problem as defined above is quite remote from the art of mounting video cameras in motor vehicles which employ a headrest to mount a video camera.

It is not believed that one of ordinary skill in the art would reasonably be motivated to go to the field of mounting video cameras in vehicles in order to solve the problem of providing an immersive imaging system that can be enjoyed passively or semi-actively, in a relaxed way, without requiring any overly demanding or disconcerting activism and without requiring a posture that wearies the user. According to the CAFC in *Pendec Inc. V. Graphic Controls Corp.* 776 F.2d 309, 227 USPQ 766 (Fed. Cir. 1985), “it is necessary to consider ‘the reality of the circumstances,’...- in other words, common sense-- in deciding in which fields the person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor...the combination of elements from non-analogous sources, in a manner that reconstructs the applicant’s invention only with the benefit of hindsight is insufficient to present a *prima facie* case of obviousness.”

The Watkins reference cannot be considered to be within the prior art encompassed by and related to the art of virtual reality or imaging systems in which a changing direction-of-view of the images is coupled to a changing direction-of-view of the head of the viewer. The present invention teaches a way to provide an immersive imaging system that can be enjoyed passively or semi-actively in a relaxed way, without requiring any overly demanding or disconcerting activism and without requiring a posture that wearies the user while, in contrast, the Watkins reference has to do with developing an apparatus for mounting video cameras in motor vehicles. A reference can be considered reasonably pertinent if it would logically have commended itself to the inventor’s attention in considering his problem. Thus, the purposes of both the invention and the prior art are important in determining whether the reference is reasonably pertinent to the problem the invention intends to solve. If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem, and the facts support its use, then it is pertinent but otherwise not. An inventor may well have been motivated to consider a reference when making his

invention but if it is directed to a different purpose, the inventor would accordingly have had less motivation or occasion to consider it. From a common sense point of view, as recommended in the *Pentec* case cited above, a person having ordinary skill in the art of virtual reality or imaging systems in which a changing direction-of-view of the images is coupled to a changing direction-of-view of the head of a viewer would not reasonably have been expected to solve the problem of imaging systems that are physically wearying over extended periods and the problem of not making the user exert a degree of activism that can be overly demanding by consulting the Watkins reference which deals with mounting video cameras in motor vehicles.

Consequently, the Watkins reference is not analogous art and the 35 U.S.C. §103 rejection is inapplicable.

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II. Regarding the differences between the prior art and the claims at issue, the Examiner admits that Watkins does not show a head of a user in executing head movements to view images from changing directions. The Examiner cites Iwamoto (U.S. 5,751,259) for teaching a head of a user in executing head movements to view images from changing directions in seated or standing positions pointing to Figure 6, items 1 and 28-29, referring to column 4, lines 53-67.

The Iwamoto reference is within the field of endeavor of the present invention i.e. imaging systems in which a changing direction-of-view of the images is coupled to a changing direction-of-view of the head of the viewer. However, the Iwamoto reference is merely illustrative of a known active system that requires the user to address the imaging systems with an erect standing or seated posture that can be physically wearying over extended periods (see page 2 of the present specification at lines 11-14). It is also illustrative of the second problem recognized by the present inventor, i.e. in the context of active applications, such as entertainment, that they can

require the user to exert a degree of activism that can be overly demanding and even disconcerting. Such requirements are the antithesis of the relaxed entertainment experience preferred by most users. See page 2 of the present specification at lines 14-19.

Even if the Watkins reference were considered to be analogous, it would still be necessary for the Watkins reference combined with Iwamoto to have suggested (expressly or by implication) the possibility of achieving further improvement by combining the teachings along the line of the present invention and, furthermore, whether the claimed invention achieved more than the combination of the Watkins reference and the Iwamoto reference altogether suggested, expressly or by reasonable implication *In re Sernaker*, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983). In this case, neither the Watkins reference nor Iwamoto suggest the possibility of achieving a solution that provides an immersive imaging system that can be enjoyed passively or semi-actively, in a relaxed way, without requiring any overly demanding or disconcerting activism and without requiring a posture that wearies the user. Therefore, neither the Watkins nor Iwamoto reference suggest or provide any motivation to make the modification necessary to the Watkins reference to arrive at the presently claimed invention.

The Examiner's motivation as recited at page 3 in the third full paragraph i.e., in order to allow the user to be able to view the image in any desired location, points it to column 5, line 18-20 in Iwamoto, does not arrive at the present invention. There is no hint or suggestion in Iwamoto of the seated user having his head supported with a headrest.

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III. Regarding the level of ordinary skill in the art, the level of skill in the art is well reflected in the prior art reference to Iwamoto. *In re GPAC Inc.* 57 F.3d 1573, 35

USPQ 2d 1116 (Fed. Cir. 1995) (“..the level of ordinary skill was ‘best determined by appeal to the references of record’...”)). The Iwamoto reference shows that the person of ordinary skill in the art at the time the invention was made was concerned with an active user who assumes an erect standing or seated posture that can be physically wearying over extended periods and that, moreover, in the context of active applications such as entertainment, such a system requires the user to exert a degree of activism that can be overly demanding and even disconcerting. Iwamoto, as a person of ordinary skill in the art, did not suggest that this might not be a good idea and that most users would rather enjoy a relaxed entertainment experience that is provided by the present invention.

Therefore, the 35 U.S.C. §103 rejection of claims 1, 2 and 6 is inapplicable and withdrawal is thereof requested.

Regarding claim 10, it is incorrect for the Examiner to state that Watkins teaches a support for supporting a user in a reclining posture or that the headrest and the head move together in a changing direction with respect to a support. The headrest of Watkins is obviously stationary and the passages cited by the Examiner in relation to Figure 5 do not support the Examiner’s statements. The Examiner admits that Watkins does not show a viewing of images provided from a correspondingly changing direction of view but points to Iwamoto for teaching same. Again, the Examiner uses the same motivation as in the rejection of claims 1, 2 and 6. The Examiner is referred to the above remarks concerning the rejection of claims 1, 2 and 6 and it is believed that those remarks are equally applicable to the Examiner’s objection to claim 10. For that reason, withdrawal of the rejection of claim 10 based on Watkins and Iwamoto is requested.

Withdrawal of the 35 U.S.C. §103 rejection of claim 10 is requested.

Regarding the rejection of claim 8, under 35 U.S.C. §103(a) as being unpatentably obvious over Stoeckl (U.S. 5,203,609) in view of Reichlen (U.S. 6,396,497), the Examiner points to Stoeckl for teaching a dental chair comprising a sensor coupled to a moveable headrest for supporting a user's head for providing a sensed signal, pointing to Figure 1-2, items 5, G1-G4, column 7, lines 7-23).

The Examiner admits that the sensors of Stoeckl are not coupled to a moveable headrest responsive to head movements of the user. The Examiner also admits that the Stoeckl reference does not provide a sensed signal having a magnitude indicative of different directions-of-view corresponding to head movements. The Examiner also admits that there is not any reality engine shown by Stoeckl responsive to a sensed signal, for providing an image signal indicative of a sequence of images from different directions-of-view selected according to such a sensed signal nor does the Stoeckl reference show a display, responsive to such an image signal, for providing a sequence of images for viewing by a user from different directions-of-view.

Thus, the Examiner has effectively admitted that Stoeckl is not analogous prior art. If the same tests are applied in the same way as explained above, then it needs to be determined whether the art is from the same field of endeavor, regardless of the problem addressed and, if the reference is not within the field of the inventor's endeavor, whether the reference is still reasonably pertinent to the particular problem with which the inventor is involved. Clearly the art of moving a dental patient chair with a controllable positioning arrangement to enable positioning a reference point or "mouth point" in a particular position in both vertical and horizontal directions has nothing whatsoever to do with the field of endeavor of virtual reality or imaging systems in which a changing direction-of-view of the images is coupled to a changing direction-of-view of the head of the viewer. Since the reference is not within the field

of the inventor's endeavor, it needs to be determined further whether the reference is still reasonably pertinent to the particular problem with which the inventor is involved. As explained above, problems addressed by the present invention are first, the known active and passive systems require the user to address the imaging system with an erect standing or seated posture that can be physically wearying over extended periods and second, in the context of active applications, such as entertainment, they require the user to exert a degree of activism that can be overly demanding and even disconcerting. Such requirements are the antithesis of the relaxed entertainment experience preferred by most users. It cannot be said that the art of adjustable dental patient chairs is reasonably pertinent to the particular problem of solving the above-mentioned two-fold problem. It is not believed of one of ordinary skill in the art would reasonably be motivated to go to the field of adjustable dental patient chairs to solve this two-fold problem. Therefore, from a common sense point of view, the Stoeckl reference is not analogous art and the obviousness rejection of claim 8 is inapplicable.

Regarding the differences between the prior art and the claims at issue, the Examiner has pointed out the differences between Stoeckl and the claimed invention and points to Reichlen (U.S. 6,396,497) for teaching a reality engine (computer) with sensor attached to the user's head responsive to sensed signal for providing an image signal indicative of a sequence of images from different directions-of-view selected according to sensed signal and a display responsive to an image signal, for providing a sequence of images for viewing by the user from different directions-of-view. The Examiner points to various figures and passages within the Reichlen reference.

According to the Examiner it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the navigation method of Reichlen in the Stoeckl apparatus in order to perform certain computer functions without requiring use of a keyboard or mouse, pointing to column 2, lines 49-52 in the

Reichlen reference.

The Reichlen reference is similar to Iwamoto in that it shows a seated user sitting in an erect position using a computer interface as described in detail by Reichlen, this sort of a system would qualify as an active system requiring the user to address the imaging system with an erect seated posture that can be physically wearying over extended periods. See the present specification at page 2, lines 11-14. See also lines 14-17 where Reichlen would also qualify as an active application that requires the user to exert a degree of activism that can be overly demanding and even disconcerting.

Therefore, it should be understood that Reichlen does not represent any kind of relaxed experience preferred by most users.

In that light, it should be understood that the present invention could be utilized in a system such as shown by Reichlen except with a headrest added so that the user is in a more relaxed posture. The transmitter 26 and sensor 28 of Reichlen would be replaced by the sensor coupled to a moveable headrest for supporting the user's head such as claimed in claim 8. The sensor would be responsive to head movements of the user, for providing a sensed signal having a magnitude indicative of differing directions-of-view corresponding to the head movements. None of this is shown or even suggested by Reichlen.

It is necessary for the Examiner to show where in the prior art there is some suggestion either or expressly or by implication of the possibility of achieving the improvement claimed by the present claim 8 by combining the teachings of both Reichlen and Stoeckl.

This the Examiner has not done and it is not seen why it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the navigation method of Reichlen in the Stoeckl apparatus in order to perform certain computer functions without requiring the use of a keyboard or mouse. There is simply no hint or suggestion in either reference that the Reichlen invention could be combined with the adjustable dental chair.

The Examiner's motivation as recited would not have occurred to one of skill in the art without the exercise of the present inventor's inventive faculty of perceiving that a virtual reality or imaging system in which a changing direction-of-view of the images is coupled to a changing direction-of-view of the head of the viewer could be made more enjoyable, in a relaxed way, without requiring any overly demanding or disconcerting activism and without requiring a posture that wearies the user.

Withdrawal of the 35 U.S.C. §103 rejection of claim 8 is requested.

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In regard to the 35 U.S.C. §103 rejection of claims 3-5 and 7 as being unpatentably obvious over Watkins, Iwamoto as aforementioned in claims 1 and 2 in view of Zwolinski et al. (U.S. 5, 673,059).

In addition to the comments made above about the rejection of claims 1 and 2 based on Watkins and Iwamoto, it is not understood how Zwolinski et al. teaches an actuator and sensor for moving a moveable headrest. The reference by the Examiner to Figure 1 is not understood because Figure 1 does not have any items 54, 56 and column 5, lines 33-47 do not discuss an actuator and sensor but rather a light box electronics module (Figure 2) for controlling an active matrix display shown in Figure 3 of Zwolinski. Therefore, the Zwolinski is inapplicable as a 35 U.S.C. §103 reference and withdrawal of the rejection of claims 3-5 and 7 on that ground is requested.

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Regarding the rejection of claim 9 under 35 U.S.C. §103(a) as being unpatentably obvious over Reichlen in view of Watkins and further in view of Zwolinski et al., the same may be said for Zwolinski et al. as said in the previous rejection where it was pointed out that Zwolinski does not teach an actuator for moving a moveable headrest.

The withdrawal of the 35 U.S.C. §103 rejection of claim 9 is requested.

* * *

Regarding the rejection of claim 11, again Zwolinski is cited the same passages as before but also in connection with column 1, lines 44-49. Column 1, lines 44-49 do not discuss anything like the adjustment of a seat to assure proper interaction with other systems but rather discuss amorphous silicon TFTs lacking the needed frequency response.

Zwolinski is again inapplicable as a reference and withdrawal of the obviousness rejection of claim 11 on that ground is requested.

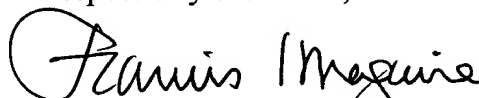
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Regarding the 35 U.S.C. §103(a) rejection of claims 12 and 13 as being unpatentably obvious over Watkins, Zwolinski et al. and Iwamoto as applied to claim 11 and further in view of Reichlen, it has been pointed out that Zwolinski et al. does not teach an actuator and the reference to Zwolinski is inapplicable. Withdrawal of the 35 U.S.C. §103(a) rejection of claim 12 and 13 is requested.

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The objections and rejections of the Office Action of August 23, 2004 having been obviated by amendment or shown to be inapplicable, withdrawal thereof is requested and passage of claims 1-19 to issue is solicited.

Respectfully submitted,

A handwritten signature in black ink that reads "Francis J. Maguire". The signature is written in a cursive style with a large, looping initial "F".

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